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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,296	04/23/2001	Yoshinori Aoyagi	122638/00	2997

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EXAMINER

NGUYEN, HOAN C

ART UNIT PAPER NUMBER

2871

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/839,296

Applicant(s)
AOYAGI ET AL.

Examiner

HOAN C. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Drawings

1. Figures 1A-B, 2A-B and 3A-B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features

- “each said switching element is a thin film transistor and said second substrate is formed with a color filter” in claim 3;
- “the first substrate is provided with a common electrode arranged in parallel to said pixel electrodes to construct an active matrix substrate of In-Plane Switching system” in claim 5;

wherein the first substrate having a first irregular surface including line-shaped protrusions extending in one direction; the second substrate having a second irregular surface including line-shaped protrusions extending perpendicularly to said one direction.

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must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the conventional arts admitted by applicants in view of Knop et al. (US4251137).

Applicants admits (Figs. 1A-B, 2A-B and 3A-B, pages 1-4) all features in claims 1-4 and 6-10 excepting the following features of

- "the first substrate having a first irregular surface including line-shaped protrusions extending in one direction;
- a second substrate arranged in an opposing relation to said first substrate,
- said second substrate having a second irregular surface including line-shaped protrusions extending perpendicularly to said one direction."

Knop et al. teach (Fig. 4, col. 3 line 59 to col. 4 line 16) liquid crystal display device comprising the first substrate (grading substrate 402) having a first irregular surface including line-shaped protrusions extending in one direction; a second substrate 400 arranged in an opposing relation to said first substrate, said second substrate having a second irregular surface including line-shaped protrusions extending perpendicularly to said one direction for regulating contrast ratio.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify liquid crystal display device as applicants admitted with a first irregular surface including line-shaped protrusions extending in one direction; a second substrate arranged in an opposing relation to said first substrate, said second substrate having a second irregular surface including line-shaped protrusions extending perpendicularly to said one direction for regulating contrast ratio.

4. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over the conventional arts admitted by applicants in view of Bradshaw et al. (US6016180A) as applied to claim 1, in further view of Ohe et al. (US6295110B1).

Ohe et al teach liquid crystal display device, wherein the first substrate is provided with a common electrode arranged in parallel to said pixel electrodes to construct an active matrix substrate of In-Plane Switching system for aligning liquid crystal molecules parallel to surface of pixel electrodes or alignment layers.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify liquid crystal display device as applicants admitted with first substrate provided with a common electrode arranged in parallel to said pixel electrodes to construct an active matrix substrate of In-Plane Switching system for aligning liquid crystal molecules parallel to surface of pixel electrodes or alignment layers with different domains due to irregular surface of substrates, thus achieving wide view angle.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Yamagishi et al. (JP402040615) disclose the light diffraction element with one of two substrates having irregular surface in parallel stripes.

Ono et al. Et al. (JP 40616085) disclose the liquid crystal display element with pixel electrode having irregular surface.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (703) 306-0472. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SIKES L WILLIAM can be reached on (703) 308-4842. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

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746-8178 for regular communications and (703) 308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

HOAN C. NGUYEN
Examiner
Art Unit 2871

chn
August 4, 2002



**TOANTON
PRIMARY EXAMINER**